

DEER HERD UNIT MANAGEMENT PLAN
Deer Herd Unit # 10
(Book Cliffs)
April 2006

BOUNDARY DESCRIPTION

Uintah and Grand Counties - Boundary begins at I-70 and the Green River (in Green River); northeast along the Green River to the White River; east along the White River to the Utah-Colorado state line; south along the Utah-Colorado state line to I-70; southwest along I-70 to the Green River. Inclusive of subunits 10a (Bitter Creek), 10b (Book Cliffs South) and 10c (Little Creek). **EXCLUDING ALL INDIAN TRUST LANDS.** USGS 1:100,000 maps: Westwater, Seep Ridge.

LAND OWNERSHIP

RANGE AREA AND APPROXIMATE OWNERSHIP

	Yearlong range		Summer Range		Winter Range	
Ownership	Area (acres)	%	Area (acres)	%	Area (acres)	%
Forest Service	0	0%	0	0%	0	0%
Bureau of Land Management	257,164	62%	93,797	34%	708,554	66%
Utah State Institutional Trust Lands	46,119	14%	63,534	27%	1,03,493	9%
Native American Trust Lands	55,545	22%	1,221	35%	235,261	19%
Private	7,433	2%	1,265	2%	75,897	7%
Department of Defense	0	0%	0	0%	0	0%
USFWS Refuge	0	0%	0	0%	0	0%
National Parks	0	0%	0	0%	0	0%
Utah State Parks	0	0%	0	0%	0	0%
Utah Division of Wildlife Resources	0	0%	6,724	1%	14,871	0%
TOTAL	366,261	100%	166,541	100%	1,138,076	100%

UNIT MANAGEMENT GOALS

Manage for a population of healthy animals capable of providing a broad range of recreational opportunities, including hunting and viewing. Balance deer herd impacts on human needs, such as private property rights, agricultural crops and local economies. Maintain the population at a level that is within the long-term capability of the available habitat.

POPULATION MANAGEMENT OBJECTIVES

- < Target Winter Herd Size - The wintering deer herd will be maintained within the vegetative carrying capacity. This will be achieved by establishing short term population objectives if the trend of the rangeland Desired Component Index (DCI) values indicate a need. (The DCI is a measurement of the condition of mule deer winter range and relates to the potential "carrying capacity" for the study site. If short term population objectives are warranted due to declining range condition, they will be established and adjusted as the DCI reflects the need or opportunity.)

The most recent DCI ratings occurred in 2005. While winter range sites showed drought related reductions from previous condition measurements, the Book Cliffs unit is a summer range limited area. Summer study site DCI values did not reflect a problem. Therefore, no short term population parameters are warranted.

Long term winter herd size of 15,000 wintering deer (modeled number) distributed in the following subpopulations:

	Unit 10	Subunit 10A	Subunit 10B	
1994-2005 Objective:	15,000	10,000	5,000	
2003 Objective:	15,000	10,000	5,000	
2006-2011 Objective:	15,000	10,000	5,000	
Change since 2003:	0	0	0	
(Subunit boundary descriptions are provided in the Appendix)				

These population objective remain for both the short-term (5-year life of this plan) and long term, barring significant changes in range conditions.

- < Herd Composition – Maintain a three-year average postseason buck to doe ratio range of 25 - 35:100.
- < Harvest – The Book Cliffs will be managed under limited entry permit hunting regulations. Establishing an average or mode age for harvested buck deer may be a beneficial management tool in the future. If buck:doe ratios are significantly different on the northern and southern parts of the unit, hunting permits may be broken out along the subunit boundaries to better distribute hunter pressure and buck deer harvest.

POPULATION MANAGEMENT STRATEGIES

Monitoring

- < Population Size - Utilizing harvest data, postseason and spring classifications and mortality estimates, a computer model has been developed to estimate winter population sizes. Wintering populations may be computer modeled for each herd subunit when deemed advantageous or when animal numbers appear to be reaching the objective.

- < Buck Age Structure - Monitor age class structure of the buck subpopulations through the use of tooth sampling, checking stations, postseason classification, uniform harvest surveys and field bag checks.
- < Harvest - The primary means of monitoring harvest will be through the statewide uniform harvest survey. Achieve the target population size by use of antlerless harvest using a variety of harvest methods and seasons. The winter population should result in an expected annual buck harvest of 1,000 on the Bitter Creek and Little Creek parts and 450 on the South part when normal conditions occur. Recognize that buck harvest will be above or below what is expected due to climatic and productivity variables. Buck harvest strategies will be developed through the RAC and Wildlife Board process to achieve management objectives for buck:doe ratios.

Limiting Factors (May prevent achieving management objectives)

- < Crop Depredation - Take all steps necessary to minimize depredation as prescribed by state law and DWR policy.
- < Habitat – Since the vast expanse of the Book Cliffs herd unit is public land, wholesale loss of habitat is not anticipated. However, if large-scale tar sands or oil shale extraction emerges, substantial losses could occur through mineral mining leases. The Book Cliffs deer herd is summer range limited and exhibits slower herd recovery following significant population declines. Proliferation of nonsystem roads and increasing ATV and OHV use compromises deer security and escape possibilities. Development of mineral resources through traditional well pads and associated drilling and production facilities may negatively impact deer habitat quality and quantity through loss, disturbance and fragmentation. Domestic cattle grazing outside of recognized grazing plan utilization levels and seasons may negatively impact deer forage availability and condition. Excessive habitat utilization will be addressed when observed.
- < Predation - Refer to DWR predator management policy.
 - Assess need for control by predator species, geographic area and season of year.
 - Seek assistance from Wildlife Services when deer populations are depressed and where there is a reasonable chance of gaining some relief through a predator control effort. Concentrate control efforts during and immediately prior to the fawning period.
 - Recommend cougar harvest to benefit deer while maintaining the cougar as a valued resource in its own right.
- < Highway Mortality - Cooperate with the Utah Department of Transportation in construction of highway fences, passage structures and warning signs etc..
- < Illegal Harvest - Should illegal kill become an identified and significant source of mortality attempt to develop specific preventive measures within the context of an Action Plan developed in cooperation with the Law Enforcement Section.

HABITAT MANAGEMENT OBJECTIVES

- < Maintain and/or enhance forage production through direct range improvements to support and maintain herd population management objectives.
- < Work with private landowners and, federal, state, local and tribal governments to maintain and protect critical and existing ranges from future losses and degradation.

- < Provide improved habitat security and escapement opportunities for deer.

HABITAT MANAGEMENT STRATEGIES

- < Continue to monitor permanent range trend studies located throughout the unit.
- < Conduct cooperative seasonal range rides and surveys to evaluate forage condition and utilization. Determining opportunities for habitat improvements will be an integral part of these surveys.
- < Work cooperatively to utilize grazing, prescribed burning and other recognized vegetative manipulation techniques to enhance deer forage quantity and quality.
- < Utilize antlerless deer harvest to improve or protect forage conditions when vegetative declines are attributed to deer over utilization.
- < Cooperate with and provide input to land management planning efforts dealing with actions affecting habitat security, quality and quantity.

PERMANENT RANGE TREND SUMMARIES

Condition of deer **winter** range on Unit 10*, as indicated by DWR range trend surveys.

<u>Year</u>	<u>Mean DCI score for Unit</u>	<u>Classification</u>	<u>Unit-specific DCI score range: Poor</u>	<u>Unit-specific DCI score range: Fair</u>	<u>Unit-specific DCI score range: Good</u>
1995	44	Fair	27-41	42-58	59-76
1998	57	Fair			
2002	54	Fair			
2005	44	Fair			

* No subunit analysis is available.

Unit 10, Book Cliffs/South Book Cliffs Subunit

There are 9 permanent range trend study sites on the South Book Cliffs subunit. All are in the "low potential" vegetative category. These sites are sagebrush grassland sites dominated by Wyoming Big Sagebrush (*Artemisia tridentata wyomingensis*) at the mouths of the steep canyons draining off of the South Book Cliffs. These sites are important deer winter range with very few elk currently wintering at lower elevations. Seven of the 9 sites were last surveyed in 2005. DCI values for all but two sites were below 24 indicating poor or very poor condition as an artifact of drought and annual grass proliferation. One site had a 24 rating and the last was 51 for fair and good ratings, respectively. Soil and browse trends appear stable. The species composition of the herbaceous understory is declining in its quality as it consists primarily of annual grasses. Annual grasses such as cheatgrass (*Bromus tectorum*) are increasing in frequency and cover on nearly all sites allowing little species diversity. The primary limiting factor to both deer and elk on this subunit is the lack of high quality summer range. Fawn production on this unit is typically the lowest of any unit in southeastern Utah. Precipitation is often limiting throughout the

unit. The vast majority of the south Book Cliffs is dominated by pinyon and juniper stands. Treatment of these stands at different elevations could improve both winter and summer big game habitat.

South Book Cliffs study sites evaluated in 2005 are located on East Floy Bench, East Thompson Bench, West Horse Pasture, East Calf Canyon, East Horse Pasture, Bitter Creek and Long Canyon.

Unit 10 Book Cliffs/North Book Cliffs Subunit

Twenty-four permanent interagency range trend transects are established on the North Book Cliffs and provided updated DCI values in 2005. Six study sites are located on summer range (high potential vegetative types), 9 are on transitional spring/fall range (mid potential vegetative types) and 9 are on traditional mule deer winter range areas (low potential vegetative types). The average DCI values for each of the site potential categories were: low potential sites averaged 32; mid potential sites averaged 57 and high potential sites received a 79 value. These values equate to "fair" condition ratings for the low and mid potential sites and a "good" rating for the high potential types.

Winter range sites show stable to improving soil stability. Herbaceous plant understories are generally in poor to very poor condition with unsatisfactory species composition. This is due primarily to cheatgrass and annual forb dominance. Most sites are in a general herbaceous species decline. Winter range browse trends are generally improving with problems of declining 4-wing saltbush evident on 2 sites.

Transitional ranges are showing pinion - juniper encroachment and increases in browse species. Herbaceous and grass species understories are declining relative to increases in browse density. Soils are stable and improving.

Summer range study sites show stable to improving mountain browse and soil stability. Herbaceous trends are improving, as are perennial grasses. Eroded gullies and stream channels are stabilizing.

The 24 North Book Cliffs study sites evaluated for the 2005 indices are located on Indian Ridge, Lower McCook Ridge enclosure, Lower McCook livestock enclosure, Lower McCook total enclosure, Lower McCook Ridge chaining, Wirefence Point, Willow Flat, Cherry Mesa, Black Horse Ridge, Agency Draw, Sunday School, Wolf Den, Two Waters WMA, Lower Tom Patterson Point, Monument Ridge, Winter Ridge enclosure out, Winter Ridge livestock enclosure, Winter Ridge total enclosure, Horse Ridge, Saddle Horse Ridge, Massey Junction, PR Spring enclosure out, PR Spring livestock enclosure and the PR Spring total enclosure.

Duration of Plan

This unit management plan was approved by the Wildlife Board on _____ and will be in effect for five years from that date, or until amended.

APPENDIX

Unit 10 Book Cliffs, South Book Cliffs Subunit

Grand County - Boundary begins at the Utah-Colorado state line and the summit and drainage divide of the Book Cliffs; west along this summit and drainage divide to Diamond Ridge; southwest along Diamond Ridge and the Book Cliffs summit (north-south drainage divide) to the Uintah and Ouray Indian Reservation boundary (Hells Hole/head of Sego Canyon); west along this boundary to the Green River; south along the Green River to I-70; east along I-70 to the Utah-Colorado state line; north along this state line to the summit and drainage divide of the Book Cliffs.

Unit 10 Book Cliffs, North Book Cliffs Subunit

Uintah and Grand Counties - Boundary begins at the Utah-Colorado state line and the White River; south along this state line to the summit and drainage divide of the Book Cliffs; west along this summit and drainage divide to the Uintah and Ouray Indian Reservation boundary (Hells Hole/head of Sego Canyon); west along this boundary to the Green River; north along the Green River to the White River; east along this river to the Utah-Colorado state line.